A REMARKABLE TECHNIQUE OF SOLVING LINEAR ORDINARY DIFFERENTIAL EQUATIONS USING LINEAR ALGEBRA

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The University of Calcutta had the distinction of producing very eminent mathematicians from the end of the nineteenth century. The original researches produced by them have time and again been acclaimed by the mathematical community of far and near. Led by the pioneer mathematical legend Sir Asutosh Mookerjee and followed by researchers like Dr. Syamadas Mukhopadhyay (1866 – 1937). Professor Meghnad Saha (1893 – 1956), Professor Satyendra Nath Bose (1894 – 1974), Professor Raj Chandra Bose (1901 – 1987), Professor Prashanto Chandra Mahalanobis (1893 – 1972), Professor Amal Kumar Ray Chaudhury (1923 – 2005), Professor Rabindra Nath Sen (1896 – 1974), Professor Manindra Chandra Chaki (1913 – 2007) and others, this university has been the repertory of novel and useful mathematical methods, techniques and knowledge. The reason for writing this brief communique', is to unveil one such remarkable technique of solving linear ordinary differential equations, using linear algebra, as discovered by Professor Jyoti Das (nee' Chaudhury), an eminent scholar and a prized former faculty member of the University of Calcutta.

To highlight the importance of her method, firstly a brief history of linear ordinary differential equations has been discussed. After that, attempts have been made to explain Professor Jyoti Das's work in a lucid and simple fashion. The technique is both useful as well as remarkable and it adds another feather to the already colourful cap of the University of Calcutta.

Key words *: Linear homogeneous ordinary differential equations, integrating factor, inner product, Euler's ODE, linear algebra, linear combination.*